

Application No. 09/998,875
Amendment dated June 8, 2004
Reply to Office Action of March 10, 2004

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-45 (canceled)

46. (currently amended) ~~The method of claim 44 wherein the step of receiving automatically first workpieces further comprises: A method of moving workpieces to and from a plasma treatment chamber comprising:~~

~~providing infeed and outfeed tables adjacent a plasma treatment chamber;~~
~~receiving automatically first workpieces serially, one at a time, onto the infeed table by~~

receiving one of the first workpieces onto the infeed table,

moving the one of the first workpieces in a first direction toward a discharge end of the infeed table,

moving the infeed table to a position aligning a portion of the infeed table with a workpiece receiving location,

receiving another of the first workpieces onto the infeed table, and

moving the other of the first workpieces in the first direction;

~~storing the first workpieces in parallel on the infeed table;~~

~~transferring automatically and in parallel the first workpieces from the infeed table into the plasma treatment chamber;~~

~~receiving automatically second workpieces serially, one at a time, onto the infeed table during plasma treating of the first workpieces;~~

~~storing the second workpieces in parallel on the infeed table; and~~

~~after plasma treating the first workpieces, transferring simultaneously and in parallel~~

~~the first workpieces from the plasma treatment chamber onto the outfeed table, and~~

~~the second workpieces from the infeed table into the plasma treatment chamber.~~

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47. (original) The method of claim 46 further comprising moving the infeed table in a second direction substantially perpendicular to the first direction to a position aligning a portion of the infeed table with the workpiece receiving location.

48. (original) The method of claim 46 further comprising stopping motion of the one of the first workpieces prior to moving the infeed table.

49. (original) The method of claim 46 further comprising iterating the step of receiving another of the first workpieces onto the infeed table and moving the other of the first workpieces in the first direction until all of the first workpieces are loaded on the infeed table.

50. (currently amended) The method of claim [[44]] 46 wherein the step of receiving automatically second workpieces further comprises:

- receiving one of the second workpieces onto the infeed table;
- moving the one of the second workpieces in a first direction toward a discharge end of the infeed table;
- moving the infeed table to a position aligning a portion of the infeed table with a workpiece receiving location;
- receiving another of the second workpieces onto the infeed table; and
- moving the other of the second workpieces in the first direction.

51. (original) The method of claim 50 further comprising moving the infeed table in a second direction substantially perpendicular to the first direction to a position aligning a portion of the infeed table with the workpiece receiving location.

52. (original) The method of claim 51 further comprising stopping motion of the one of the second workpieces prior to moving the infeed table.

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53. (original) The method of claim 50 further comprising iterating the step of receiving another of the second workpieces onto the infeed table and moving the other of the second workpieces in the first direction until all of the second workpieces are loaded on the infeed table.

54. (currently amended) The method of claim [[44]] 46 wherein after transferring the first workpieces on the outfeed table, the method further comprises:

moving one of the first workpieces in a first direction towards a discharge end of the outfeed table;

transferring the one of the first workpieces from the outfeed table;

moving the outfeed table to a position aligning another of the first workpieces with a workpiece discharge position;

moving the other of the second workpieces toward the discharge end of the outfeed table; and

transferring the other of the second workpieces from the outfeed table.

55. (original) The method of claim 54 further comprising moving the outfeed table in a second direction substantially perpendicular to the first direction to a position aligning the other of the first workpieces with the workpiece discharge position.

56. (original) The method of claim 54 further comprising stopping motion of the one of the first workpieces prior to moving the outfeed table.

57. (original) The method of claim 54 further comprising iterating the step of receiving another of the first workpieces onto the outfeed table and moving the other of the first workpieces in the first direction until all of the first workpieces are loaded on the outfeed table.

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58. (currently amended) The method of claim [[44]] 46 further comprising:
- lowering first pusher elements to a location immediately adjacent ends of respective second workpieces on the infeed table;
 - lowering second pusher elements to a location immediately adjacent ends of respective first workpieces in the plasma treatment chamber;
 - moving the second pusher element in the first direction towards the outfeed table to move the first workpieces from the plasma treatment chamber onto the outfeed table; and
 - moving the first pusher element in the first direction towards a discharge end of the infeed table to move the second workpieces from the infeed table into the plasma treatment chamber.
59. (original) The method of claim 58 further comprising moving the first and second pusher elements simultaneously in the first direction.
60. (original) The method of claim 58 further comprising moving the first and second pusher elements simultaneously in the first direction and into contact with ends of the respective second and first workpieces and thereafter, continuing to simultaneously move the first and second pusher elements to move the first workpieces from the plasma treatment chamber to the outfeed table and the second workpieces from the infeed table into the plasma treatment chamber.
61. (original) The method of claim 58 further comprising lowering bridge elements between the infeed and outfeed tables and the plasma treatment chamber before continuing to move the first and second pusher arms.

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62. (original) The method of claim 59 further comprising:

stopping motion of the first and second pusher elements in response to the second workpieces being moved into the plasma treatment chamber;
raising the first pusher element to a location above the second workpieces; and
continuing to move the first and second pusher elements and the first workpieces in the first direction to continue to move the first workpieces on the outfeed table.

63 (original) The method of claim 62 further comprising stopping motion of the first and second pusher elements in response to the second workpieces being moved to about a center of the plasma treatment chamber.

64 (original) The method of claim 63 further comprising:

stopping motion of first and second pusher elements in response to the first workpieces being moved onto the outfeed table;
raising the second pusher element to a location above the second workpieces; and
moving the first and second pusher elements to a location not interfering with an operation of the plasma treatment chamber.

65. (original) The method of claim 64 further comprising moving the first and second pusher elements in a second direction opposite the first direction to a location not interfering with an operation of the plasma treatment chamber.

66. (original) The method of claim 62 further comprising raising the bridge elements between the infeed and outfeed tables and the plasma treatment chamber after continuing to move the first and second pusher elements.

Claims 67-68 (canceled)